

Interview Summary	Application No. 10/679,655	Applicant(s) RASMUSSEN ET AL.	
	Examiner Leslie J. Evanisko	Art Unit 2854	

All participants (applicant, applicant's representative, PTO personnel):

(1) Leslie J. Evanisko. (3)_____.

(2) Stephan Gribok. (4)_____.

Date of Interview: 24 May 2007.

Type: a) ☒ Telephonic b) ☐ Video Conference
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.
If Yes, brief description: _____.

Claim(s) discussed: 1.

Identification of prior art discussed: Klose (DD 200985).

Agreement with respect to the claims f) ☒ was reached. g) ☐ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: The Examiner contacted applicant's representative with a couple proposed claim amendments to further distinguish from the teaching of Klose and to correct a minor formality. Applicant's representative agreed that these changes could be made by Examiner's Amendment. See the Examiner's Amendment for details.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Examiner's signature, if required

PTO 06-3401

CY=DD DATE=19830629 KIND=Patent
PN=2009 855

PORTABLE MARKING DEVICE
[Tragbare Markiervorrichtung]

H. Klose

UNITED STATES PATENT AND TRADEMARK OFFICE
Washington, D.C. March 2006

Translated by: FLS, Inc.

Figure 1

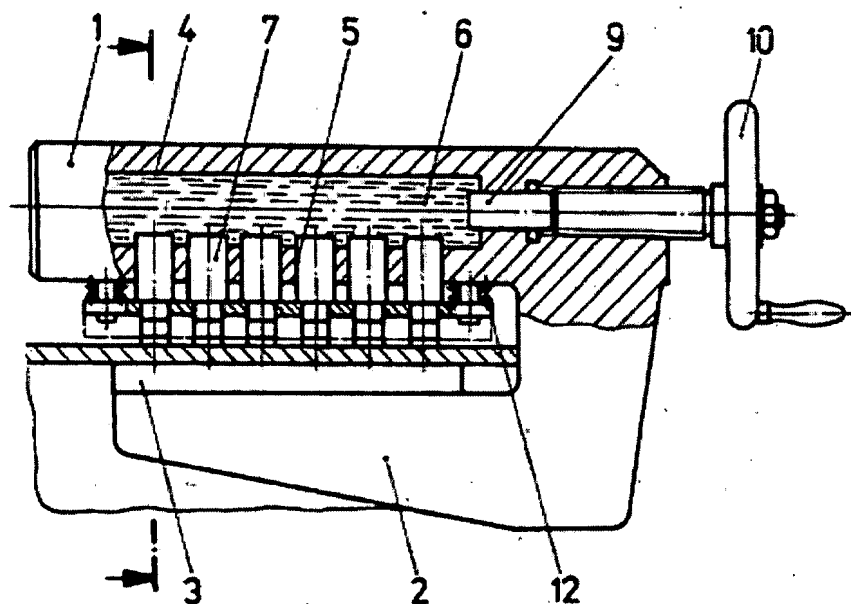
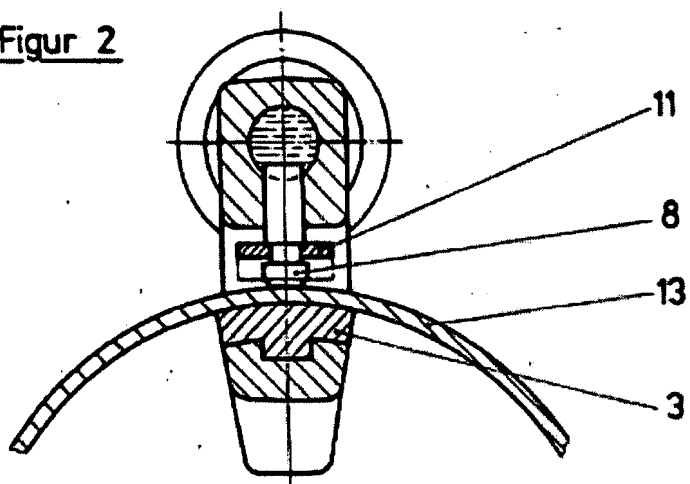


Figure 2

Figur 2



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INVENTOR	(72):	Klose, H.
APPLICANT	(71):	Klose, H.
TITLE	(54):	PORTABLE MARKING DEVICE
FOREIGN TITLE	[54A]:	Tragbare Markiervorrichtung

Field of Application of the Invention

This invention relates to a portable marking device for marking semi-finished products and workpieces of metal by impressing characters. The preferred area of application is labeling steel pipes and pipeline elements of steel having wall thickness from 2 mm.

Description of the Prior Art

Devices are known for marking pipes, pipeline components and metal sheets with which the character, which comprises a plurality of pieces of movable type, is impressed into the workpiece by means of a force-transferring member using mechanical, hydraulic, or pneumatic drive. The disadvantage of these devices is that, if the surface is uneven, then the various pieces of type will penetrate to different depths, producing markings that are less than satisfactory. Due to their considerable design complexity, these devices are difficult or impossible to move from one place to another. Known portable marking devices operate pneumatically (DE AS 2451992, B21C 51/00) or use a prestressed spring (DL 126476, B41K 3/36), whereby either a marking unit is accelerated against the workpiece surface or an impact element is accelerated against the marking unit, which rests on the workpiece surface. In addition to the disadvantage of uneven marking, these devices are characterized by noise and dynamic stress on the work force.

A portable device is described in DL 136 242 that operates in such a way that one of two opposing pneumatic rolls, which are

connected by a lever system, is led over a magazine, in which a plurality of pieces of marking type are arranged side by side vertically and are pressed into the surface, the other roll serving as a holder. The advancing motion is carried out by the advancing of a pneumatic cylinder supported on the workpiece. The disadvantage of this device is that the various pieces of type are not pressed into the surface perpendicular to the latter, so that once again the characters fail to meet the requirements and, moreover, the device is too difficult to handle in actual practice. The reason for these shortcomings is that, due to the constantly misaligned application of pressure and lack of a firm attachment of the device as a whole, the pieces of marking type are canted. In addition, there is the design principle and dependence on a stationary source of compressed air.

Object of the Invention

The object of the invention is to develop a handy device for marking that is capable of producing a marking of good quality.

Presentation of the Essence of the Invention

The object of this invention is to provide even, perpendicular penetration of all marking types, regardless of any unevenness on the surface to be marked, by a perpendicular direction of action of the required forces, with firm application to the workpiece, production of these forces independently of stationary power-source devices, and a compact design of the device. To achieve the inventive object, a device is proposed in which a housing, which accommodates a cavity

system filled with a pressure-transfer agent, is firmly attached at one end to a parallel counter-holder and the cavity system comprises a central bore arranged in the longitudinal axis of the housing and a plurality of mutually parallel branch bores perpendicular to the central bore, leading toward the counter-holder, in which branches working pistons lie against the pieces of marking type. A pressure piston, which terminates the cavity system and which is connected to a manually actuated operating element, is provided for producing the pressure. The invention is particularly advantageously implemented by using a plastic material as the pressure-transfer agent and by equipping the counter-holder with a support that fits the shape of the workpiece. The inventive device works in that, when the operating element is actuated, the pressure piston is pressed into the cavity system and acts on the pressure-transfer agent, whereby the working pistons are driven out and the marking types are pressed into the workpiece, which lies against the counter-holder.

With proper dimensions of the force-transferring element, the force required for marking can be produced manually.

Exemplary Embodiment

An expedient form of the invention will be described below, based on an exemplary embodiment in which steel pipes are marked.

In the accompanying drawing, Fig. 1 shows the device in operating position on a workpiece and Fig. 2 shows a cross section of the same representation.

In housing **1**, which is firmly attached to counter-holder **2** which accommodates replaceable support **3**, there is a central bore **4**, from which a plurality of mutually parallel branch bores **5** extend in the direction of the counter-holder, said branches accommodating working pistons **7**. Working pistons **7** lie against replaceable marking types **8** which, in turn, are guided in retaining plate **11** with tension spring **12**. Extending into central bore **4**, which is filled with pressure-transfer agent **6**, is pressure piston **9**, which lies against the end face of hand wheel **10** in housing **1**. In the present exemplary embodiment, a plastic material is used as pressure-transfer agent **6**, placing lower tightness requirements on the system than would a liquid. Once a support **3** suitable for the wall thickness and curvature of workpiece **13** has been installed, the device is pushed over the workpiece. When hand wheel **10** is turned, pressure piston **9** is pushed into central bore **4**, displacing the pressure-transfer agent. As a result, working pistons **7** are driven out, pressing adjacent marking types **8** into workpiece **13**. At the same time, retaining plate **11** is carried along in the direction of the workpiece, thereby stretching tension spring **12**.

Since the pressure in pressure-transfer agent **6** is propagated uniformly, all the marking types are acted on by the same pressure, so that the same impression depth is achieved, despite any unevenness in the workpiece surface.

When hand wheel **10** is turned back, the pressure in the pressure-transfer agent is decreased and stretched tension springs **12** retract retaining plate **11** with marking types **8**. In this way, working pistons **7** and, by means of pressure-transfer agent **6**, pressure piston **9** are brought back to their original positions, after which a new marking process can begin.

Claims

1. A portable marking device that applies pressure separately to a plurality of mutually unconnected marking types, characterized in that a housing (1) contains a cavity system filled with pressure-transfer agent (6), said system comprising a central bore (4) extending along the longitudinal axis of said housing and a plurality of mutually parallel branch bores (5), which extend in the direction of a counter-holder (2), which is arranged parallel to the housing and is connected at one end to the latter, whereby the branch bores accommodate working pistons (7), which lie against marking types (8), and, for producing pressure in the cavity system, a pressure piston (9) is provided, which terminates the cavity system and is operated manually by an operating element (10).

2. A portable marking device as recited in Claim 1, characterized in that a plastic material is used as pressure-transfer agent (6).

3. A portable marking device as recited in Claim 1, characterized in that counter-holder (2) is provided with a

replaceable support (3), which in each case is adapted to the
respective thickness and shape of the workpiece.

1 page of figures attached.
